

IN THE CLAIMS:

Claims 2, 4 and 11 were previously cancelled. Please now cancel claims 3, 5-9 and 17-19 without prejudice, add new claims 20-28 and amend the claims as follows:

1. (Currently Amended) A method, comprising:
acquiring, or retrieving from storage, seismic data representative of acceleration wavefield;
applying a gain recover to the seismic data;
applying a normal moveout correction to the seismic data;
muting the seismic data;
stacking the seismic data; and
applying a time migration to the seismic data
~~processing the seismic data representative of the acceleration wavefield to obtain information about the earth's subsurface direct from the seismic data representative of the acceleration wavefield; and~~
~~wherein said processing comprises attenuating coherent noise at frequencies over 100 Hz in the seismic data.~~

2-9. (Cancelled)

10. (Currently Amended) An apparatus, comprising:
an input interface for receiving seismic data representative of acceleration wavefield;
a data processor; and
memory comprising program instructions executable by the processor to:
acquire seismic data representative of acceleration wavefield;
apply a gain recover to the seismic data;
apply a normal moveout correction to the seismic data;
mute the seismic data;
stack the seismic data; and

apply a time migration to the seismic data
~~process the seismic data representative of the acceleration wavefield to obtain information about the earth's subsurface direct from the seismic data representative of the acceleration wavefield; and~~
~~attenuate coherent noise at frequencies over 100 Hz in the seismic data.~~

11. (Cancelled)
12. (Previously Presented) A seismic surveying arrangement comprising:
a seismic source for emitting seismic energy;
a seismic receiver for acquiring seismic data representative of the acceleration wavefield, the seismic receiver being spaced from the seismic source; and
an apparatus as claimed in claim 10 for processing seismic data acquired by the receiver.
13. (Original) A seismic surveying arrangement as claimed in claim 12 wherein the seismic source and the receiver are each disposed at or on the earth's surface.
14. (Original) A seismic surveying arrangement as claimed in claim 12 wherein the seismic source is disposed at or on the earth's surface and the receiver is disposed within a borehole.
15. (Original) A seismic surveying arrangement as claimed in claim 12 wherein the seismic source is disposed in a water column and the receiver is located at the base of the water column.
16. (Original) A seismic surveying arrangement as claimed in claim 12 wherein the seismic source is disposed in a water column and the receiver is disposed within a borehole.

17-19 (Cancelled)

20. (New) The method of claim 1, further comprising combining the seismic data with pressure data.
21. (New) The method of claim 1, further comprising removing an effect of a signature of the source used to acquire the seismic data.
22. (New) The method of claim 1, further comprising removing coherent noise from the seismic data.
23. (New) The method of claim 1, further comprising applying a demultiple algorithm to remove events that involve multiple passes through a water column in which a receiver used to acquire the seismic data is disposed.
24. (New) The method of claim 1, further comprising applying a trace equalization algorithm to the seismic data.
25. (New) The method of claim 1, further comprising applying a pre-stack deconvolution algorithm to attenuate short period of reverberations.
26. (New) The method of claim 1, further comprising applying a post-stack deconvolution algorithm to whiten a signal spectrum.
27. (New) The method of claim 26, further comprising applying a time-varying bandpass filter to the seismic data.
28. (New) The method of claim 1, further comprising equalizing amplitudes of the stacked seismic data.